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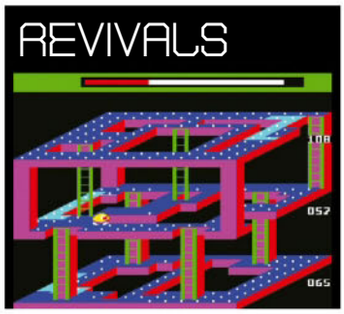

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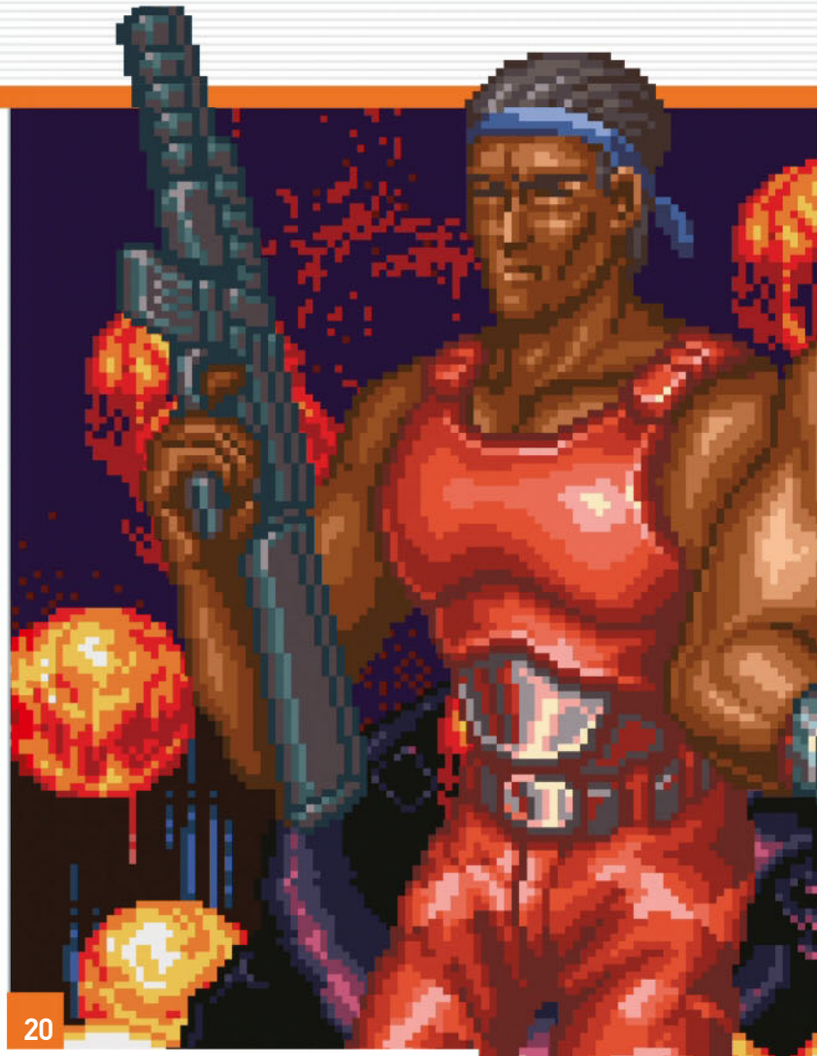

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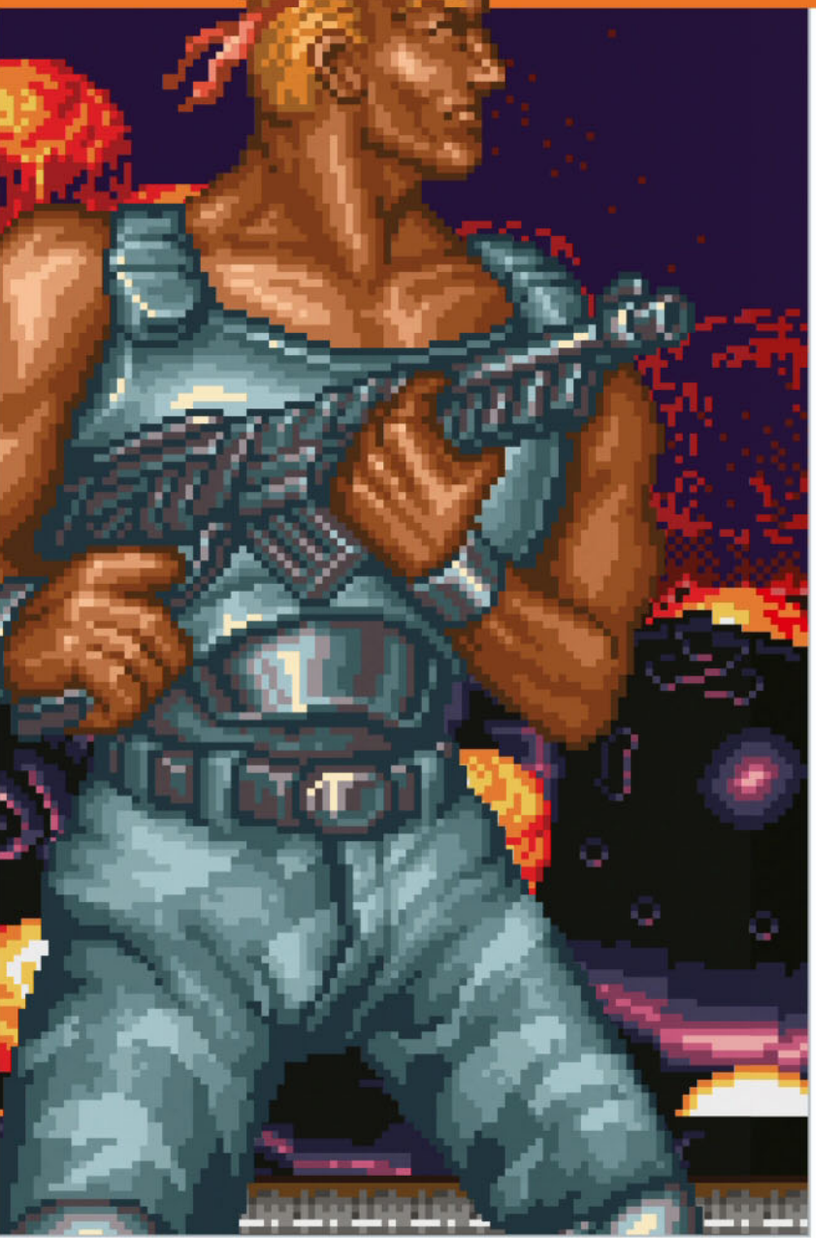
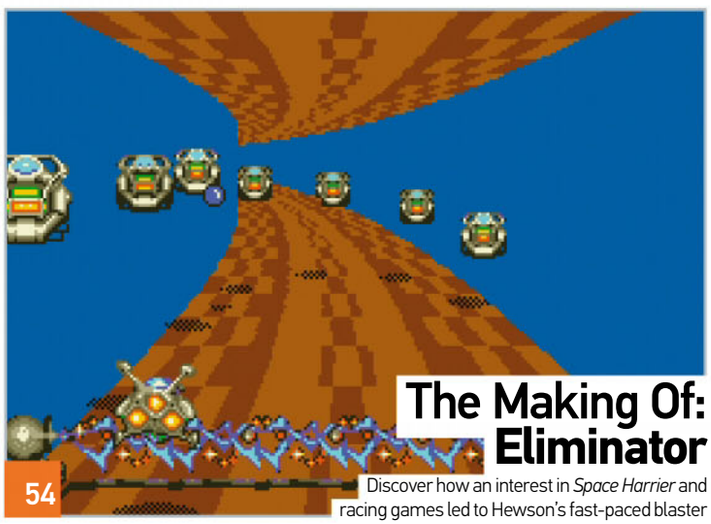


> "Our developers should be proud of what they have achieved"



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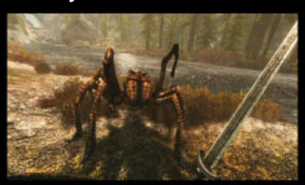


ESSENTIALS

THE HISTORY OF AMST

Amstrad's second generation of PCs hit the headlines for the wrong reasons in 1989.

TRAD

For more than ten years, Amstrad produced dozens of computers from the CPC to the PCW and IBM PC compatibles. Founder Lord Sugar talks to David Crookes about that period, along with Roland Perry and Richard Chandler

Between 1987 and 1989, *Amstrad Action* ran an amusing comic strip called Sugarman. You could say it was the precursor to the fictional mutant villain of the same name which made an appearance a few years later in Marvel Comics' *Generation Next*, but you'd be lying. No, this one was based on Alan Michael Sugar and his determination to dominate the world with his computers. It touched upon themes as varied as his buyout of Sinclair and his failure to break into America.

The strip wasn't by no means essential reading, but it was proof that Alan Sugar – or Lord Sugar as he is now known, after being created a life peer in 2009 – was rather well known. After all, it was near-impossible to separate Amstrad from the man given that it bore his name (Alan Michael Sugar Trading). It was he who called the shots, made the decisions and drove the bargains which ensured the company was a success.

Born on 24 March 1947, Lord Sugar had become business-minded from a young age. He sold ginger beer to his classmates at school, woke early to work on a market stall and bagged various jobs as a teenager. He became familiar with hundreds of retailers across London as a salesman for companies such as Robuk Electrical, R Henson and Binatone. It put him in good stead for founding Amstrad in 1968.

Image © Retro Computer Museum

The CPC 664 was only on sale for six months. Amstrad decided to replace it with the 128K CPC 6128.

Initially, he rebadged products for sale but he soon began thinking of items he could make from scratch and sell for less than others. His breakthrough was producing dust covers for hi-fis, using a technique called injection moulding – enabling him to sell each unit for a few quid. Before long, Amstrad was also making amplifiers and tuners.

AMSTRAD

The CPC range was well-supported at the time, with popular games magazines like *Amstrad Action* and *Amstrad User*

But it was Lord Sugar's foray into producing all-in-one music centres that brought him success. He combined an amplifier with a tuner and tape deck into a single unit and made them look like they were separate. Powered by one plug and retailing for £199, it came with the bonus of needing little time to set up. Audiophiles hated it, but Lord Sugar wasn't bothered.

"There had been a falsehood in the early days of hi-fi and audio that the big Japanese brands had something very, very special about them," he tells us. "But actually there was nothing special about them. We just manufactured products and sold them at a price in relation to what they cost to build and not what people thought they were worth to sell."

Although Amstrad also made car, portable and clock radios, by 1982 Lord Sugar began looking for a new market to enter. He noted the successes of Sinclair, Commodore and Acorn in the home computer industry and spotted a problem he felt he could resolve. "If you owned one of their computers, you had to commandeer the television set in the home," he says. "You had to plug it in and use an RF modulator to tune it to a certain station on the television. Then you had a separate cassette box or something like that to load programs on. It was very, very messy."

Lord Sugar believed he could do for computers what he did for hi-fis. "My solution was very simple," he tells us. "You do it all-in-one. You go and buy a package which has its own screen and its own datacorder and you plug it in and away you go. No wires. That was the philosophy behind Amstrad. We wanted to make it easier." But Lord Sugar also realised that if he wanted to get a computer in the shops, it needed to be designed from scratch. There was no time to waste.

"The wisdom was that it would take about a year to develop a computer," says Roland Perry, a Cambridge graduate who was working for the component supplier and hardware design consultancy company, Ambit International. "So Amstrad handed the task to a couple of guys they had worked with in the past. Only these guys didn't really understand the enormity of the task and when they realised they were never going to deliver it, they did a runner."

Amstrad released an A4-sized portable Z80-based computer called the NC100 Notepad in 1992.

Alarmed, Bob Watkins, Amstrad's technical and manufacturing director, turned to Ambit and asked if the team could help rescue the computer. "They needed to find someone mad enough to think they could pick up the entrails and do something useful with it in three months," Roland laughs. "And that's what we did."

Lord Sugar inherently believed creating a computer was a straightforward process. "We were a consumer electronics company and there was kind of an air of mystique that people were trying to make about computers," he remembers. "My view was that they were just another piece of consumer electronics and there was no mystique about them. I felt if we applied our mass production philosophy to it, we would come up with a winning item."

To create that first computer, Amstrad studied the Commodore 64, BBC Micro and Spectrum, noting the good and bad bits of each one. They chose a Motorola 6502 microprocessor which had been used in the Apple IIe, Commodore PET, BBC Micro, Commodore 64 and others. But when Roland visited Locomotive Software, that quickly changed.

"We were running Locomotive from the back room of my little terraced house in Dorking and Roland brought a prototype computer with him," says

10 GAMES THAT DEFINED THE AMSTRAD RANGE

ROLAND IN TIME

■ There were eight Roland games in total for the Amstrad CPC, released between 1983 and 1985. "We had *Roland On The Ropes*, *Roland In The Caves*, Roland does this, Roland does that, I can't remember them all," says Lord Sugar. "The character would jump all over the place. We named him after Roland Perry."

GET DEXTER

■ Originally released for the CPC, this funny isometric graphic adventure was developed in France where the CPC was popular thanks to the efforts of Amstrad France boss Marion Vannier. Boasting superb graphics, animation and music it was packed with tiny flourishes, testing player skills to the limit.

GRYZOR

■ Or *Renegade*, if you wish, for either of these Ocean classics looked superb on the CPC thanks to the artistic skills of Mark K Jones. Packed with screens and with lots of weapons at your disposal it played like a dream. CPC owners blessed with 128k could also enjoy an enhanced version of it.

FANTASY WORLD DIZZY

■ This offering is proof that some games were ported from the Amstrad to the Spectrum, with the Oliver twins making the CPC their lead platform. It just so happens that *Fantastic World Dizzy* was also created when Amstrad owned the Spectrum and back when Dizzy was an unofficial 8-bit mascot of sorts in the United Kingdom.

BURNIN' RUBBER

■ This launch game shipped with every GX4000, 464 Plus and 6128 Plus and it instantly hinted at the power of the new machine. Made by Ocean and essentially an unofficial version of *WEC Le Mans*, it boasted superb sprite scaling and jaw-dropping graphics. It was included in the demo units sent out to shops.

> "THEY NEEDED TO FIND SOMEONE MAD ENOUGH TO THINK THEY COULD PICK UP THE ENTRAILS"
>
> Roland Perry

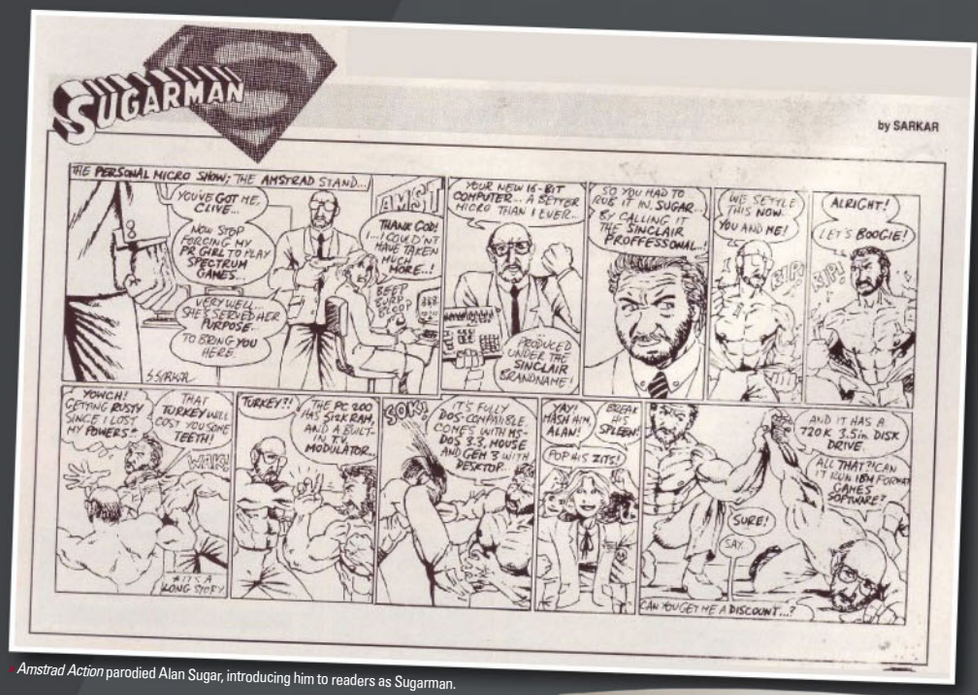
Locomotive Software cofounder Richard Clayton. "He wanted to know how long it might take us to port a copy of our BASIC interpreter and, since it turned out there wasn't really any existing code, write a simple operating system for it."

Richard told Roland it would take half a year. "The problem was that the system used a 6502 and our BASIC was for a Z80," Richard tells us. "If it was for a Z80 then we thought it would take four. So we called our friend and hardware designer Mark-Eric Jones [aka Mej] to come and have a look. He quickly pointed out that the circuit board wasn't going to work because some of the chips didn't have power and ground connected, and he suggested starting again on the hardware as well." It was at this point that Roland was convinced a move to a Z80 would be a wise choice.

Perry agreed to the switch and Locomotive worked towards a deadline of January 1984. "It was hard work and long days," says Richard. "But we hit our targets." They sought to make BASIC more logical, adding commands such as 'DRAW', 'INK' and 'FILL'. Mej suggested Amstrad slash the number of components within the machine and make use of gate arrays which allowed for a large number of discrete components to be squeezed on to a single chip, cutting costs. "It also made it harder for folk in the Far East to clone the machine should it become successful," says Richard.

Eventually a sellable computer emerged and, in April 1984, Amstrad unveiled its baby as the Amstrad CPC 464. "We'd created an all-rounder 8-bit machine that had the capability of doing whatever the other machines did," Lord Sugar tells us. The difference was that the 464 had a built-in tape deck, came with a monitor and was powered with a single plug. It also had 64K of memory (which Lord Sugar figured would matter to buyers comparing specs), 27 colours, three screen modes and support for up to two joysticks.

The computer retailed for £229 for the green screen version and £329 for colour. Users could get to grips with BASIC immediately or insert a tape and run a program. "But the problem initially was to get software writers to produce programs for it because they were writing millions of games for Sinclair," says Lord Sugar. "Getting those converted over to the Amstrad CPC 464 was, I guess, the biggest challenge we had at the time." To encourage development, Amstrad sent out prototypes to software houses but it also created its own division called Amsoft,which also worked



Amstrad Action parodied Alan Sugar, introducing him to readers as Sugarman.

In West Germany, Schneider was given permission to sell and market Amstrad products and it badged them with its own logo.

PREHISTORIK 2

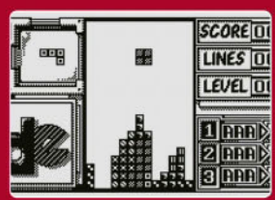
■ Amstrad only wanted the extra Plus features to be accessible to games released on cartridge but clever developers soon found a way around that. *Prehistorik 2* was among the disc and tape games taking advantage of the extended colour palette and graphical touches, although it suffered from slowdown.

BATMAN

■ The first *Batman* game ever developed made its way on the Amstrad PCW proving that the computer could indeed be interesting to gamers. There was no colour, other than green, in this 3D isometric action adventure, of course, and it sounded bloody awful but, holy Amstrad, it was very enjoyable to play.

SONIC THE HEDGEHOG

■ Yes, that Mega Drive favourite was available on the Amstrad Mega PC and it was completely indistinguishable from the original. But that's only because it was the original game, plugged into the Mega Drive port on the front of this 386 PC-console hybrid and played using the bundled controller.



BLOCKADE

■ This *Tetris* clone made its way on to the Amstrad Notepad, squeezing onto the computer's long, thin screen. Other games for the system included *Super Blockage* and *Trikade*. But other than that, the Notepad was really a machine for boring stuff like word processing and spreadsheets.

PRINCE OF PERSIA

■ Having established itself as a CPC classic, pushing the tech to near-16-bit levels, Jordan Mechner's platforming classic was bundled with the Amstrad PC5286. Aimed at gamers specifically, the computer came with a 14-inch VGA monitor displaying 256 colours from a palette of 250,000, as well as a joystick.

THE BUSINESS SIDE OF AMSTRAD

How the British business proved itself to be a major contender

» Producing an IBM-compatible PC in 1986 for less than £1,000 was perceived as being revolutionary.

"We took the PC market by storm," boasts Lord Sugar, of a venture that began in 1986 with the release of the 512K IBM-compatible PC1512. "Within 18 months, we had 25 per cent of the whole European market." It also had a PC that sold for just £499, seriously undercutting its rivals.

Motivated partly by a desire to ship its computers across the world and because it was being nagged to create an IBM-compatible computer, Amstrad began the process of creating its own PCs by getting engineers to crack an existing PC open.

"We found that the actual components inside those machines didn't warrant the £2,000 price that IBM wanted to sell them for. It was more like £399," Lord Sugar tells us. "So we didn't make our PCs cheaper than anyone else, we just sold them for a more reasonable price."

It worked wonders. By pricing according to the hardware's cost, Amstrad sold millions of units. "Sales exploded," Lord Sugar affirms. Even though it originally opted not to buy a licence for MS-DOS and decided to use Digital Research's DOS-Plus instead, that debut had more than enough power to run popular games such as *Monkey Island* and *Elite*. There was a joystick port on the keyboard, too.

Many more PCs followed, including the portable PPC range ("A computer for people who wanted to transport their machine from home to client and plug it in when they got there," says Roland Perry). But of most note for us were the PC5286 and Mega PC. The former was a 16MHz 286-based PC that had a 40MB hard drive and 1MB of on-board memory. Aimed specifically at gamers, it was priced at £1,050 and came with *Prince Of Persia*, *F-15 II* and *Links*.

The Mega PC, meanwhile, was made under a licence from Sega in 1993. Originally costing £999.99, and later reduced to £599, it included Mega Drive hardware and it had both a 32-bit Intel 80386SX CPU and a Motorola 68000. Despite a 40MB hard drive, a megabyte of memory, expandable to 16MB, and a controller was bundled – it didn't sell very well.

» Now a rare collector's item, the Mega PC could play UK, Japanese, US and unlicensed Mega Drive games.

But at least it didn't cause a headache of 1989 proportions. That year Amstrad hit the headlines when it had to swap every hard disc fitted in the PC2386 model bought by customers due to reported problems of the Seagate ST227R seizing up. Such negative press saw Amstrad's leading position in the PC market slip dramatically.

on instruction manuals, a magazine and a users' club. By Christmas 1984, Amstrad had sold 200,000 CPC 464s and it was well and truly in business.

It was time to think about the next move. "We'd decided to get people interested in cassettes first because we were trying to hit a price point for our first computer, and putting in a disc drive at that time would have doubled it," explains Roland. "But we did have an external disc drive for the 464 and we had loaded games off it when we demonstrated the computer at launch. When we began to sell it, we became inundated with people asking us to put a floppy drive in the 464 instead. We looked at this enormous demand and thought, 'Okay, we will.'"

This resulted in the CPC 664 – codenamed IDIOT, or Includes Disk Instead Of Tape – which was released in April 1985. "The market was changing and more data was needed with faster loading so we built the floppy disc drive into a new CPC," affirms Lord Sugar. "We had to move with the times." It was an ugly-looking beast that retailed at £339 for the green screen and £449 for the colour screen versions. Still, it attracted 70,000 customers and it came complete with the operating system CP/M 2.2.

"But we were also selling in foreign marketplaces and the distributors there were saying they couldn't sell a 64K computer any more because it was too low a number," says Roland. "So a completely separate research and development production team worked on the CPC 6128 which was basically a 664 with 128K of memory. We launched this in the USA first."

» Amstrad put the ZX Spectrum +3 to bed in 1990, prompting this rather dramatic headline.

US distribution was handled by Jose Luis Dominguez at Indescomp who had pestered Amstrad to allow him to sell the CPC 464 in Spain. Jose had proved hugely successful, much to the surprise of Lord Sugar who was sceptical of the Spanish market – perhaps justifiably given there were some later shenanigans involving an import tax on computers with 64K or less RAM that Amstrad was forced to get around it by soldering in an extra, yet unusable, 8K.

Lord Sugar also had reservations about selling the CPC 6128 in the USA, believing America's market to be more sophisticated and hostile to European computer manufacturers. He was right. Although the extra 64K was bank-switched and let the machine run CP/M+, which was a good selling point, Indescomp priced the machine at $799 for the colour version (complete with Amsword and a copy of *Roland In Time*) and $699 for green (with a copy of Wordstar and three blank discs). It duly flopped.

Amstrad launched the 6128 in Europe instead, replacing the 664 after just six months. "We maybe shouldn't have launched it in the UK for another six or

» Lord Sugar wanted full control over the Spectrum when Amstrad bought the rights: he didn't want Sir Clive Sinclair to be involved.

nine months," says Roland. "After all, no one in the UK knew there was a 6128 in America." Nevertheless, for gamers, the 6128 with its three-inch disc drive and 128K of RAM proved to be a decent machine.

Even better, some games made good use of the extra memory including *Nigel Mansell's World Championship*, *Hero Quest* and *Switchblade*. Not that Lord Sugar fully appreciated such things. "I did play games, the chess games and the shoot-'em-up games occasionally just to try them out a little bit. But I wasn't the expert on them, no," he tells us.

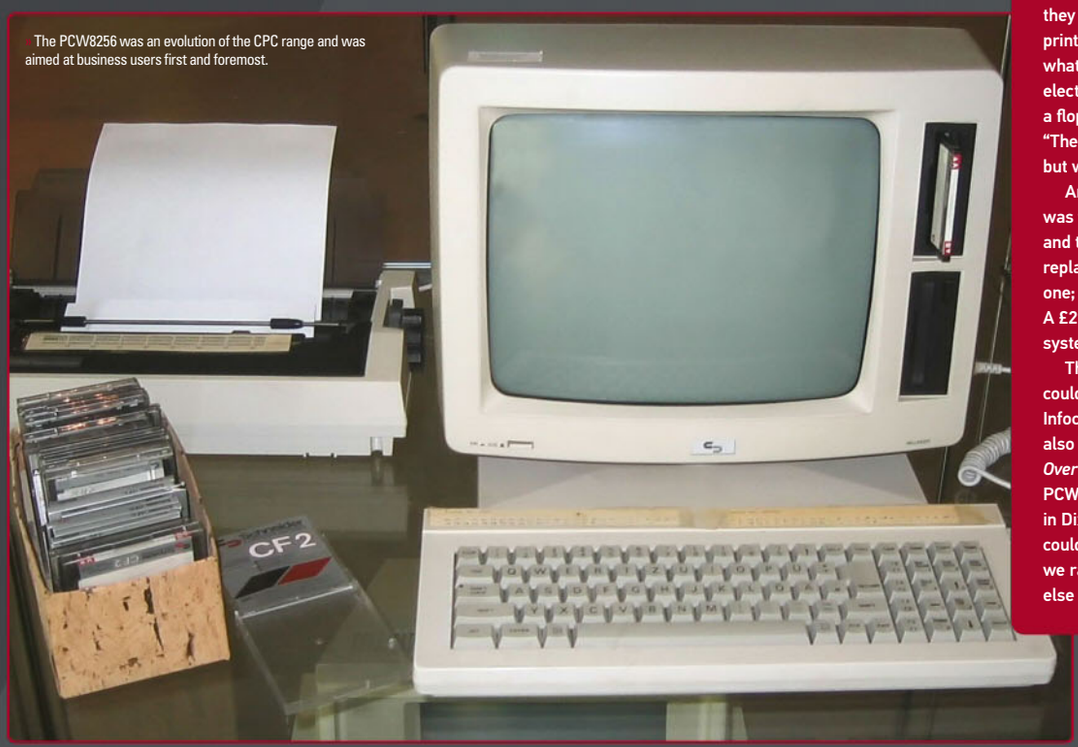
Lord Sugar was more interested in the serious business of ensuring Amstrad launched a new product each year. In July 1984, he sketched an idea for another computer, one with an A4-shaped monitor that had a built-in disc drive and a printer sat on top. By the time it launched in 1985 as Amstrad's first PCW – a dedicated word processor designed to replace the typewriter – it had a standard sized monochrome monitor and a separate nine-pin printer. "It was basically for the budding author, the small business owner or the vicar wanting to write his weekly sermon," says Roland.

Locomotive Software was involved in the process once more ("We were asked to create the word processor and came up with LocoScript," says Richard). But Lord Sugar wasn't entirely happy. "Turned out he actually wanted an electronic typewriter so he was very disappointed that you had to finish editing a document before you printed it," Richard adds. Still, the PCW was a phenomenal seller and it pushed Amstrad away from the CPC. There would be six PCW iterations in total released through to 1995. "The one thing I never understood was why no other company produced a similar machine in competition with us," says Roland. "We had the market to ourselves."

That couldn't be said for Amstrad's PC range, however. Debuting with the PC1512 in 1986 for a staggeringly cheap £499, Amstrad successfully opened up the PC market to the masses and it spawned about 30 follow-ups including desktops, handhelds and laptops. There were also two main stabs at a proper gaming PC from Amstrad – the PC5286 and Mega PC in that time – but the majority were generally aimed at serious users and they allowed Amstrad to gain as much as a quarter of the European computer market.

"THE ONE THING I NEVER UNDERSTOOD WAS WHY NO OTHER COMPANY PRODUCED A SIMILAR MACHINE IN COMPETITION WITH US"

Roland Perry



» The PCW8256 was an evolution of the CPC range and was aimed at business users first and foremost.

AMSTRAD PCW

A brief history of one of Britain's most popular PC ranges

» Unlike the earlier grey CPC models, the later PCW range of systems by Amstrad had a more business-like look to them.

When Amstrad launched the PCW range in 1985, it wouldn't in its wildest dreams have believed it would become Britain's most popular computer for a total of 31 years. But up until the Raspberry Pi sold its 8 millionth unit in 2016, that's exactly what it achieved as it sought to make the typewriter all but a memory.

The debut PCW8256, had 256K of memory, a keyboard with dedicated cut, copy, paste and print keys and a printer. "It evolved from the CPC," Lord Sugar tells us. "It had the same philosophy – a simple solution going forward." The idea was to sell a machine that primarily let users word process, making use of 90 by 32 resolution that allowed a full A4 page to be displayed without the need to scroll.

"Before the PCW, people needed a program that they ran on a computer together with a separate printer and separate monitor and I just said, 'No, what we'll do is make it all-in-one: a monitor and electronics in one box, a keyboard in front of it and a floppy disc in the cabinet,'" Lord Sugar continues. "The original drawings had the printer sitting on top but we felt that it wasn't the correct way to go."

Amstrad continued to refine its range. The 8256 was followed by the PCW8512, which had 512K RAM and two three-inch floppy disc drives; the PCW9512 replaced the green screen with a black and white one; and the PCW9256 introduced a 3.5-inch drive. A £299 PCW16 in 1995 utilised a new GUI operating system – like the Mega PC, it didn't sell.

There was some light relief, though. Gamers could enjoy adventures made by the likes of Infocom, Level 9 and Magnetic Scrolls. There were also big name titles ranging from *Batman* and *Head Over Heels* to *Match Day II* and *Last Ninja 2*. "The PCW was the first computer that had a waiting list in Dixons," says Roland Perry. "The salespeople couldn't switch customers to another product when we ran out of stock because there wasn't anything else equivalent to switch them to."

AMSTRAD

THE SINCLAIR COMPUTERS

How Amstrad carried on the Sir Clive's legacy

Lord Sugar knew how he wanted the Spectrum to look well before he picked up the phone to talk to Sir Clive Sinclair about buying Sinclair's brand and products. The entrepreneur got one of his designers to sketch it before tasking workers in Brentwood, Essex, to take delivery of a Speccy, open it up and list the components so that he could estimate how much it would cost to manufacture.

Armed with this knowledge, he was convinced he could cut costs and make a healthy profit on Sinclair's machines. So after a bit of back and forth a deal was struck and the Spectrum was soon his.

It was at that point that Amstrad realised it had another asset on its hands: former Sinclair Research engineer Richard Altwasser, who had only recently started working for Lord Sugar's firm. Richard Altwasser understood the inner workings of the Spectrum and he got on with modifying the basic chip design, improving the sound and producing a new PCB layout.

Before long, the tape-based Spectrum +2 was born, adopting a better keyboard and a similar design to the CPC 464. Selling for £140 in 1986, it sold 250,000 in the first year and it was followed by the three-inch disc based Spectrum +3. Initially retailing for £249, this included AMSDOS on a 64K ROM, although the computer wasn't entirely compatible with 48K hardware and software.

Both systems ended up being made in the Far East rather than the UK to save money. But Lord Sugar says Amstrad also solved a major problem. "The returns rate of the Spectrum was horrific. The stuff was coming back in greater numbers than they sold," he says. "I don't know why, but obviously there were technical issues."

Thankfully for Speccy fans there was never any consideration given to removing the Sinclair name, "I think much of the value was the brand," says Roland Perry, "We just production-engineered them to be affordable and reliable."

Not that Amstrad wasn't thirsty for more. On 7 April 1986, it announced it had bought the rights to sell and manufacture all existing and future Sinclair computers in a deal worth £5 million. It wasn't entirely a surprise: Sinclair Research had sold more than a million Spectrums and it had a 40 per cent share of the home computer market, yet it only limped through the previous year. Had it not been for Dixons spending £10 million taking 160,000 Spectrum Plus computers and televisions,it would have gone bust.

"Sinclair was about to go bankrupt so we just stepped in there and bought the intellectual property rights," Lord Sugar tells us. "We then took the Spectrum Plus and redesigned it, putting a cassette recorder on the end. We sold hundreds of thousands of them." Indeed, the Spectrum +2 and +3 machines were big sellers for Amstrad. The company also managed to make a killing by flogging unsold stocks of Spectrum and Sinclair QL models before axing them off completely.

Despite such activity, Amstrad didn't completely lose sight of the CPC. In 1988, it started working on revamping the 464 and 6128 to take a greater slice of the ever-growing gaming market. It also sought to take on Nintendo with the release of the GX4000 games console. Each model had a cartridge slot offering players an enhanced feature set and although the same 4MHz Z80A processor used in the CPC drove the software, there were 16 hardware sprites made up 16x16 pixels and 16 colours that could be magnified to double or quadruple normal size.

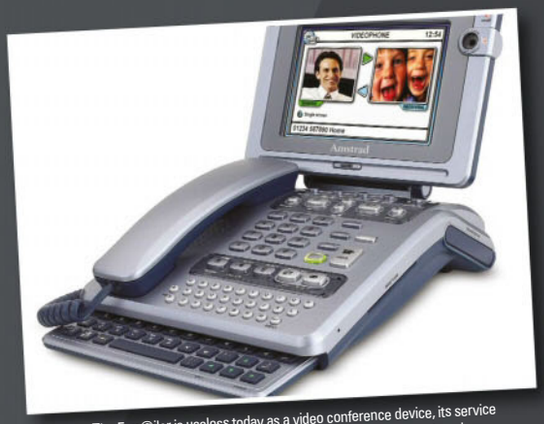
The machines also had smooth hardware scrolling and programmable scan line interrupts which gave the illusion of more colours and more sprites. A Direct Memory Access controller played music without burdening the processor, too, while the carts held 128K of accessible code.

Yet despite a palette of 4,096 colours, they were still 8-bit machines at a time when 16-bit was dominating. If that didn't put people off, then the fact too many cartridge games were straight CPC ports certainly did. "The GX4000 wasn't very good and it came at a time when we tried to resurrect stuff based on the 464 and, to be frank, it wasn't really a success, no," Lord Sugar admits. And yet Roland has no regrets. "I wouldn't say the GX4000 or Plus machines were a mistake. Loads of people were nagging us left, right and centre asking us to do something with our existing platforms so that we'd have something vaguely competitive with Nintendo and we gave it a go," he says.

"The feeling was that people wanted to load stuff off a cartridge and that, by not having this capability, we were behind the times." Given the GX4000 sold just 15,000 consoles and suffered the indignity of being discounted from £99 to £79 mere months after launch (eventually going as low as £30), it inevitably spelled the end of the CPC range. Amstrad then concentrated on the PCs and PCWs, while sticking its

Image © Retro Computer Museum

It may look primitive today next to MacBook and Surface computers, but the PPC512 was an impressive portable computer for its time.



» The E-m@iler is useless today as a video conference device, its service was shut down in 2011. You can still use it as a regular phone, though.

fingers in other pies (Lord Sugar even busying himself with the purchase of Tottenham Hotspur Football Club in June 1991).

The Nineties saw Amstrad become heavily involved in the production of satellite set-top boxes for Sky's television service. It had been offered the contract in 1989 by Rupert Murdoch ahead of Sky's proposed launch in February 1989, mainly because Lord Sugar said he could knock the devices out at short notice for a £199 price point. Amstrad met the deadline and its relationship with Sky flourished. It produced huge numbers of boxes and dishes and, continued doing so when Sky Digital launched in 1998. The digital boxes were able to receive an interactive television service, called Open, from August 1999. This even had a range of simplistic games, including *Beehive Bedlam*, *Fathom*, *Big Top Drop*, *Sheep Dip*, a version of *Tomb Raider* and *Corporal Cluck*. It was rebranded Sky Active two years later.

By this time, Amstrad PLC had actually been wound up, its shares split into Viglen and Betacom. But Betacom was renamed Amstrad PLC and, in 2000, it released a telephone and email device called the E-m@iler, followed by the E-m@iler Plus and E3 Videophone. The latter two let users download and play Spectrum games via an emulator. The E3 even came with a games controller. But Lord Sugar's obsession with these devices caused a major fallout.

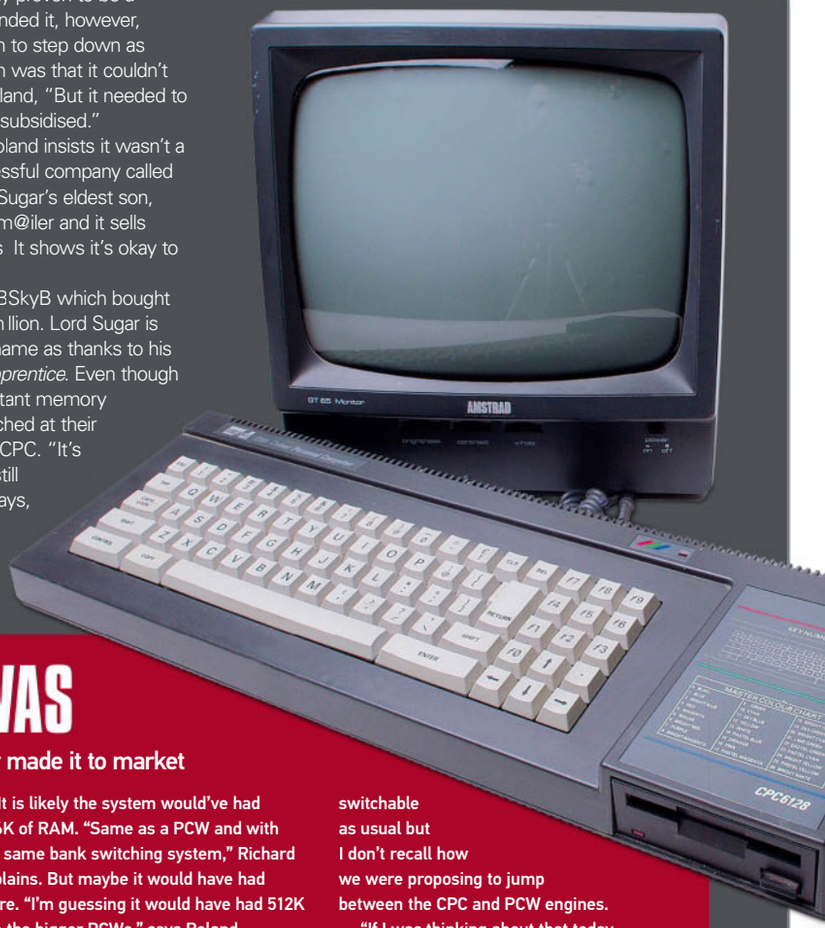
Bob Watkins, who had worked at Amstrad for 25 years, is understood to have resigned in 2001 over the machine, noting it had already proven to be a fantastic failure. Lord Sugar defended it, however, and it even outlasted his decision to step down as Chairman in 2008. "The problem was that it couldn't find a business model," says Roland, "But it needed to because the device was heavily subsidised."

Like the GX4000 and Plus, Roland insists it wasn't a waste of time, though. "A successful company called Amscreen which is run by Alan Sugar's eldest son, Simon, is a descendant of the Em@iler and it sells advertising space on digital signs It shows it's okay to have a failed product."

Today, Amstrad is owned by BSkyB which bought the company in 2007 for £125 million. Lord Sugar is also something of a household name as thanks to his leading role in the BBC's *The Apprentice*. Even though his computers are now but a distant memory for him, Lord Sugar appears touched at their enduring appeal, particularly the CPC. "It's quite surprising that people are still using the machines today," he says, "it's a long time ago and things have moved on but it was a great era for us." *

"IT'S SURPRISING THAT PEOPLE ARE STILL USING THE MACHINES TODAY"

Lord Sugar



THE CPC THAT NEVER WAS

Richard Clayton and Roland Perry reveal details on the computer that never made it to market

Work on the original line up of CPCs appeared to grind to a halt following the release of the 6128. But while history shows that Amstrad moved on to the PCW and PC market until briefly coming back to the CPC with the short-lived Plus range, there had actually been plans for one more Colour Personal Computer.

Mark-Eric Jones of Data Recall and Locomotive Software had been commissioned to produce a second machine as work got underway on the PCW 8256. Dubbed Arnold Number Two (or ANT for short), the computer was going to be compatible with both the CPC and PCW.

Having spoken to Roland Perry and Locomotive Software's Richard Clayton, we have gained a tantalising look at what might have been for the CPC as it battled against its 8-bit rivals during the late Eighties.

The 8-bit machine would have been a colour version of the PCW with a CPC emulation mode. "It would have run CPC software in emulation mode and then allowed for more fancy things," says Richard. "There was a lot of commonality with the PCW and that's why some of the bit addressing in the PCW screen memory is the odd way that it is."

The ill-fated computer would have been a colour version of the PCW with a CPC emulation mode. "It would have run CPC software in emulation mode and then allowed for more fancy things," reveals Richard. "There was a lot of commonality with the PCW and that's why some of the bit addressing in the PCW screen memory is the odd way that it is."

Image © oldcomputer.info

» The ANT computer would have used a PCW casing, with a more bespoke keyboard.

It is likely the system would've had 256K of RAM. "Same as a PCW and with the same bank switching system," Richard explains. But maybe it would have had more. "I'm guessing it would have had 512K like the bigger PCWs," says Roland.

Gamers would have been well served, too. There was elegant screen-handling hardware and more RAM would be used for the screen. However, Richard adds, "If you had colour you did not get the same screen resolution as the PCW."

Locomotive would have provided an updated LocoScript and CP/M and had the same firmware/BASIC as the CPC for that mode. The computer would also have loaded up a CPC 464 screen. "The boot loader told the hardware to emulate and it was just like the PCW in that all of the disk handling was software," says Richard who actually owns a prototype of the machine.

"The whole point was being to run all of the available software for both the CPC and PCW in one box," Roland continues. "The different screen modes would have been switchable as usual but I don't recall how we were proposing to jump between the CPC and PCW engines.

"If I was thinking about that today, maybe this would be done by examining track zero of the floppy and then either booting the Locoscript or CP/M environment from the floppy, or switching in an image of the CPC firmware ROM."

As for how it was going to look, Roland says it would have used the same case as the PCW. "One stumbling block included what the keyboard would look like. Some games needed the CPC keys in familiar places rather than scattered around a fundamentally PCW keyboard," he says.

So why was it shelved? "That was partly our fault in that we were somewhat behind with LocoScript and so had not done very much coding for the ANT," says Richard. "Amstrad then decided it did not make sense any more, with 16-bit machines becoming more important."